

SEQUENCE LISTING

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AMYLIN PHARMACEUTICALS, INC
<120> METHODS AND COMPOSITIONS FOR TREATING POLYCYSTIC OVARY SYNDROME
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<140> 10/629,649
<141> 2003-07-30
<150> 10/317,126
<151> 2002-12-11
<150> PCT/US03/01109
<151> 2003-01-14
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<170> PatentIn version 3.2
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Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu
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Pro Arg Pro Pro Ser Ser
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Ser Gly Ala Pro Pro Pro Xaa

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VARIANT

<223> Ala, Ser or Thr

<222> (8)..(8)

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<220>
<221> VARIANT
<222>
      (9)..(9)
<223> Ala, Noraline, Val, Norleucine, Asp or Glu
<220>
<221>
      VARIANT
<222>
      (10)..(10)
<223> Ala, Leu, Ile, Val, pentylglycine or Met
<220>
<221> VARIANT
<222>
      (11)..(11)
<223> Ala or Ser
<220>
<221>
      VARIANT
<222>
      (12)..(12)
<223> Ala or Lys
<220>
<221>
      VARIANT
<222>
      (13)..(13)
<223> Ala or Gln
<220>
<221> VARIANT
<222>
      (14)..(14)
<223>
      Ala, Leu, Ile, pentylglycine, Val or Met
<220>
<221> VARIANT
<222>
      (15)..(17)
<223> Ala or Glu
<220>
<221> VARIANT
<222> (19)..(19)
<223> Ala or Val
<220>
<221>
      VARIANT
<222>
      (20)..(20)
<223>
      Ala or Arg
<220>
<221>
      VARIANT
<222>
      (21)..(21)
<223> Ala, Leu or Lys-NH3-R where R is Lys, Arg, C1-10 straight-chain
      or branched alkanoyl or cycloalleyl-alkanoyl
<220>
<221>
      VARIANT
<222>
      (22)..(22)
<223> Phe, Tyr or naphthylalanine
```

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<220>
<221> VARIANT
     (23)..(23)
<222>
     Ile, Val, Leu, pentylglycine, tert-butylglycine or Met
<220>
<221>
     VARIANT
<222>
     (24)..(24)
<223> Ala, Glu or Asp
<220>
<221>
     VARIANT
<222>
     (25)..(25)
<223> Ala, Trp, Phe, Tyr or naphthylalanine
<220>
<221> VARIANT
<222>
     (26)..(26)
<223> Ala or Leu
<220>
<221>
     VARIANT
<222>
     (27)..(27)
<223> Lys Asn, Asn Lys, Lys-NH3-R Asn, Asn Lys-NH3-R, Lys-NH3-R Ala,
      Ala Lys-NH3-R where R is Lys, Arg, C1-C10 straight-chain or
      branched alkanoyl or cycloalkylalkanoyl
<220>
<221> VARIANT
<222>
     (28)..(28)
     -OH, -NH2, Gly-OH, Gly-NH2, Gly Gly-ON, Gly Gly-NH2 and further
<223>
      as indicated in the specification
<400> 25
5
                                10
                                                 15
1
<210>
      26
<211> 39
<212> PRT
<213> Artificial sequence
<220>
     artificial sequence with specific variable residues
<223>
<220>
<221> MISC FEATURE
      See specification as filed for detailed description of
      substitutions and preferred embodiments.
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23

<220>

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<221> VARIANT
<222> (1)..(1)
<223> His, Arg or Tyr
<220>
<221>
      VARIANT
<222>
      (2)..(2)
<223> Ser, Gly, Ala or Thr
<220>
<221> VARIANT
<222>
      (3)..(3)
<223> Asp or Glu
<220>
<221> VARIANT
<222> (6)..(6)
<223> Phe, Tyr or naphthylalanine
<220>
<221> VARIANT
<222>
      (7)..(7)
<223> Thr or Ser
<220>
<221> VARIANT
<222>
      (8)..(8)
<223>
     Thr or Ser
<220>
<221> VARIANT
<222> (9)..(9)
<223> Asp or Glu
<220>
<221> VARIANT
<222> (10)..(10)
<223> Leu, Ile, Val, pentylglycine or Met
<220>
<221> VARIANT
<222>
      (14)..(14)
<223> Leu, Ile, pentylglycine, Val or Met
<220>
<221> VARIANT
<222>
      (22)..(22)
<223> Phe, Tyr or naphthylalanine
<220>
<221>
     VARIANT
<222> (23)..(23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met
<220>
<221> VARIANT
<222> (24)..(24)
```

```
<223> Glu or Asp
<220>
<221>
      VARIANT
<222>
      (25)..(25)
<223> Trp, Phe, Tyr or naphthylalanine
<220>
<221>
      VARIANT
<222>
      (31)..(31)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine,
       N-alkylpentylglycine or N-alkylalanine
<220>
<221> VARIANT
<222> (36)..(38)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine,
       N-alkylpentylglycine or N-alkylalanine
<220>
      VARIANT
<221>
<222>
      (39)..(39)
<223> Ser, Thr or Tyr and is optionally amidated
<220>
<221>
      VARIANT
<222>
      (39)..(39)
       Ser-OH, Ser-NH3, Thr-OH, Thr-NH3, Tyr-OH or Tyr-NH3
<400> 26
Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
                5
                                    10
Glu Ala Val Arg Leu Xaa Xaa Xaa Leu Lys Asn Gly Gly Xaa Ser
            20
                                25
                                                    30
Ser Gly Ala Xaa Xaa Xaa Xaa
        35
<210> 27
<211> 38
<212> PRT
<213> Artificial sequence
<220>
<223>
       artificial sequence with specific variable residues
<220>
<221> MISC FEATURE
<223> See specification as filed for detailed description of
       substitutions and preferred embodiments.
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<221> VARIANT
<222> (1)..(1)
<223> His, Arg, Tyr or 4-imidazopropionyl
<220>
<221> VARIANT
<222>
      (2)..(2)
<223> Ser, Gly, Ala or Thr
<220>
<221> VARIANT
<222>
      (3)..(3)
<223> Asp or Glu
<220>
<221> VARIANT
<222> (6)..(6)
<223> Phe, Tyr or naphthylalanine
<220>
<221>
      VARIANT
<222>
      (7)..(7)
<223> Thr or Ser
<220>
<221> VARIANT
<222>
      (8)..(8)
<223> Ser or Thr
<220>
<221> VARIANT
<222> (9)..(9)
<223> Asp or Glu
<220>
<221> VARIANT
<222> (10)..(10)
<223> Leu, Ile, Val, pentylglycine or Met
<220>
<221> VARIANT
<222> (14)..(14)
<223> Leu, Ile, pentylglycine, Val or Met
<220>
<221> VARIANT
      (22)..(22)
<222>
<223> Phe, Tyr or naphthylalanine
<220>
<221>
      VARIANT
<222> (23)..(23)
<223> Ile, Val, Leu, pentylglycine, tert-butylglycine or Met
<220>
<221> VARIANT
<222> (24)..(24)
```

```
<223> Glu or Asp
<220>
<221> VARIANT
<222>
      (25)..(25)
<223> Trp, Phe, Tyr or naphthylalanine
<220>
<221> VARIANT
<222> (27)..(27)
<223> Lys, Asn, Asn, Lys, Lys-NH3-R Asn, Asn, Lys-NH3-R where R is Lys,
      Arg, C1-C10 straight-chain or branched alkanoyl or
       cycloalkylalkanoyl
<220>
<221> VARIANT
<222> (30)..(30)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine,
      N-alkylpentylglcyine or N-alkylalanine
<220>
<221> misc feature
<222>
      (30)..(30)
<223> Xaa can be any naturally occurring amino acid
<220>
<221> VARIANT
<222> (35)..(37)
<223> Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine,
       N-alkylpentylglcyine or N-alkylalanine
<220>
<221> VARIANT
<222>
      (38)..(38)
<223> Ser, Thr or Tyr, which is optionally amidated
<220>
<221>
      VARIANT
<222> (38)..(38)
<223> Ser-OH, Ser-NH3, Thr-OH, Thr-NH3, Tyr-OH or Tyr-NH3
<400> 27
Xaa Xaa Xaa Gly Thr Xaa Xaa Xaa Xaa Ser Lys Gln Xaa Glu Glu
Glu Ala Val Arg Leu Xaa Xaa Xaa Leu Xaa Gly Gly Xaa Ser Ser
                                25
Gly Ala Xaa Xaa Xaa Xaa
        35
<210> 28
<211> 30
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<212> PRT
<213> Artificial Sequence
 <220>
 <223> artificial sequence with specific variable residues
 His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
                                   25
 <210> 29
  <211> 30
  <212> PRT
  <213> Artificial Sequence
 <223> artificial sequence with specific variable residues
 <220>
 <221> MOD RES
  <222> (30)
  <223> OPTIONAL AMIDATION, Position 30 may be Gly-NH2
  <400> 29
  His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
  Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
               20
                                   25
  <210> 30
  <211> 28
  <212> PRT
  <213> Artificial Sequence
  <220>
  <223> artificial sequence with specific variable residues
  <220>
  <221> MOD RES
  <222> (28)
  <223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
  <400> 30
  His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
  Glu Ala Val Arg Leu Ala Ile Glu Phe Leu Lys Asn
               20
                                   25
```

<210> 31

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<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 31
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 32
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 32
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                                          15
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 33
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
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<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 33
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 34
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 34
Tyr Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 35
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Tyr-NH2
<400> 35
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
```

25

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Ser Gly Ala Pro Pro Pro Tyr
         35
<210> 36
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 36
His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 37
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
<221> VARIANT
<222> (6)
<223> Xaa is napthylalanine
<400> 37
His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
         35
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<210> 38
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 38
His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                 25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 39
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 39
His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                 25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 40
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
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<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 40
His Gly Glu Gly Thr Phe Thr Thr Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 41
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 41
His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 42
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
<221> VARIANT
<222> (10)
<223> Xaa is pentylglycine
```

```
<400> 42
His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 43
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
<221> VARIANT
<222> (10)
<223> Xaa is pentylglycine
<400> 43
His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 44
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
<221> VARIANT
<222> (14)
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<223> Xaa is pentylglycine
<400> 44
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 45
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
<221> VARIANT
<222> (14)
<223> Xaa is pentylglycine
<400> 45
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
                                                      30
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 46
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<220>
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<221> VARIANT

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<223> Xaa is napthylalanine
<400> 46
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                 5
Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 47
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 47
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
             20
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 48
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 48
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
                                 25
```

<222> (22)

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35
<210> 49
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (23)
<223> Xaa at Position 23 is tertiary-butylglycine
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 49
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                      10
                                                           15
Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 50
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (23)
<223> Xaa at position 23 is tertiary-butylglycine
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                                           15
Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn Gly Gly Pro Ser
```

Ser Gly Ala Pro Pro Pro Ser

20 25 30

Ser Gly Ala Pro Pro Pro Ser 35

<210> 51

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial sequence with specific variable residues

<220>

<221> MOD RES

<222> (39)

<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2

<400> 51

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn Gly Gly Pro Ser 20 25 30

Ser Gly Ala Pro Pro Pro Ser 35

<210> 52

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial sequence with specific variable residues

<220>

<221> MOD_RES

<222> (39)

<223> OPTIONAL AMIDATION, position 39 may be Ser-NH2

<400> 52

His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser 20 25 30

Ser Gly Ala Pro Pro Pro Ser 35

<210> 53

<211> 39

<212> PRT

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<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is thioproline
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 36, and 38 is thioproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 53
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                  25
             20
Ser Gly Ala Xaa Xaa Xaa Ser
         35
<210> 54
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is thioproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 54
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
                                                      30
```

Ser Gly Ala Xaa Xaa Xaa Ser

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<210> 55
<211> 39
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is homoproline
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is homoproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 55
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Xaa Ser
         35
<210> 56
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is homoproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 56
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
```

```
1
                  5
                                     10
                                                         15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Xaa Xaa Ser
<210> 57
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is thioproline
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is thioproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Ser
         35
<210> 58
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is homoproline
<220>
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<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36,37, and 38 is homoproline
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
             20
                                 25
Ser Gly Ala Xaa Xaa Ser
         35
<210> 59
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa at position 31 is N-methylalanine
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is N-methylalanine
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 59
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     1.0
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Ser
         35
<210> 60
<211> 39
<212> PRT
```

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<213> Artificial Sequence ·
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is N-methylalanine
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 60
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Xaa Xaa Ser
         35
<210> 61
<211> 39
<212> PRT
<213> Artificial Sequence
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<221> VARIANT
<222> (31)
<223> Xaa at position 31 is N-methylalanine
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa at positions 36, 37, and 38 is N-methylalanine
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 61
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Xaa Ser
             20
                                 25
```

Ser Gly Ala Xaa Xaa Ser

```
<210> 62
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 62
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 63
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 64
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
```

```
<400> 64
His Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                 25
<210> 65
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 66
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Ala Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 67
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
```

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<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 67
His Gly Glu Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 68
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 69
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 69
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
```

```
<210> 70
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 71
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 71
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
                  5
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
<210> 72
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 72
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
```

```
5
                                      10
                                                          15
1
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 73
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 73
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
<210> 74
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 74
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 75
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
```

```
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 76
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 76
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                     10
Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 77
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 77
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
<210> 78
<211> 28
<212> PRT
```

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<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 78
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                      10
Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
             20
<210> 79
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 79
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Ala Phe Leu Lys Asn
             20
<210> 80
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                      10
```

Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn

20 25

```
<210> 81
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 81
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
             20
<210> 82
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 82
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
<210> 83
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Ala-NH2
```

```
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
             20
                                 25
<210> 84
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be Pro-NH2
<400> 84
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser Gly Ala Pro Pro Pro
         35
<210> 85
<211> 38
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be Pro-NH2
<400> 85
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala Pro Pro Pro
         35
```

<400> 83

```
<210> 86
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be Pro-NH2
<400> 86
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
Ser Gly Ala Pro Pro
         35
<210> 87
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (.37)
<223> OPTIONAL AMIDATION, Position 37 may be Pro-NH2
<400> 87
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro Pro
         35
<210> 88
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
```

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<221> MOD RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be Pro-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Pro
         35
<210> 89
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be Pro-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro
         35
<210> 90
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (35)
<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2
<400> 90
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
```

20 25 30

Ser Gly Ala 35

<210> 91

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial sequence with specific variable residues

<220>

<221> MOD_RES

<222> (35)

<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2

<400> 91

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu 1 5 10 15

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser 20 25 30

Ser Gly Ala 35

<210> 92

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial sequence with specific variable residues

<220>

<221> MOD RES

<222> (34)

<223> OPTIONAL AMIDATION, Position 34 may be Gly-NH2

<400> 92

His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser 20 25 30

Ser Gly

<210> 93

<211> 34

<212> PRT

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<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (34)
<223> OPTIONAL AMIDATION, Position 34 may be Gly-NH2
<400> 93
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                      10
                                                          15
                  5
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly
<210> 94
<211> 33
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (33)
<223> OPTIONAL AMIDATION, Position 33 may be Ser-NH2
<400> 94
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser
<210> 95
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (33)
<223> OPTIONAL AMIDATION, Position 33 may be Ser-NH2
```

```
<400> 95
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser
<210> 96
<211> 32
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (32)
<223> OPTIONAL AMIDATION, Position 32 may be Ser-NH2
<400> 96
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
<210> 97
<211> 32
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (32)
<223> OPTIONAL AMIDATION, Position 32 may be Ser-NH2
<400> 97
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                                      30
             20
<210> 98
<211> 31
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (31)
<223> OPTIONAL AMIDATION, Position 31 may be Pro-NH2
<400> 98
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro
             20
                                  25
<210> 99
<211> 31
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (31)
<223> OPTIONAL AMIDATION, Position 31 may be Pro-NH2
<400> 99
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro
             20
<210> 100
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (30)
<223> OPTIONAL AMIDATION, Position 30 may be Gly-NH2
<400> 100
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                      10
```

Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly

20 25 30

```
<210> 101
<211> 29
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (29)
<223> OPTIONAL AMIDATION, Position 29 may be Gly-NH2
<400> 101
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly
             20
<210> 102
<211> 29
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (29)
<223> OPTIONAL AMIDATION, Position 29 may be Gly-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
             20
<210> 103
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is thioproline
```

```
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa is thioproline
<220>
<221> MOD_RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be thioproline-NH2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Xaa Xaa Xaa
         35
<210> 104
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa is thioproline
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be thioproline-NH2
<400> 104
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser Gly Ala Xaa Xaa Xaa
         35
<210> 105
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is N-methylalanine
<220>
<221> MOD RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be Pro-NH2
<400> 105
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
Ser Gly Ala Pro Pro
         35
<210> 106
<211> 37
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is N-methylalanine
<220>
<221> VARIANT
<222> (36)..(37)
<223> Xaa is N-methylalanine
<220>
<221> MOD_RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be N-methylalanine-NH2
<400> 106
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
             20
Ser Gly Ala Xaa Xaa
         35
```

```
<210> 107
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is homoproline
<220>
<221> VARIANT
<222> (36)..(37)
<223> Xaa is homoproline
<220>
<221> MOD RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be homoproline-NH2
<400> 107
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                      10
1
                                                           15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
             20
                                  25
Ser Gly Ala Xaa Xaa
         35
<210> 108
<211> 36
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is homoproline
<220>
<221> VARIANT
<222> (36)
<223> Xaa is homoproline
<220>
<221> MOD RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be homoproline-NH2
```

```
<400> 108
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa
         35
<210> 109
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (35)
<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2
Arg Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala
         35
<210> 110
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (30)
<223> OPTIONAL AMIDATION, Position 30 may be Gly-NH2
<400> 110
His Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
                                  25
             20
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<210> 111

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<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (6)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 111
His Gly Glu Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 112
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 112
His Gly Glu Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                     10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 113
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
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<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 113
His Gly Glu Gly Thr Phe Ser Thr Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 114
<211> 28
<212> PRT
<213> Artificial Sequence
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<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 114
His Gly Glu Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Ala Glu
                  5
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
<210> 115
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (10)
<223> Xaa is pentylglycine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 115
His Gly Glu Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
                  5
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
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<210> 116
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (22)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 116
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
             20
<210> 117
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (23)
<223> Xaa is tertiary-butylglycine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 117
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
                                  25
             20
<210> 118
<211> 28
<212> PRT
<213> Artificial Sequence
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<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 118
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
             20
<210> 119
<211> 33
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (33)
<223> OPTIONAL AMIDATION, Position 33 may be Ser-NH2
<400> 119
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser
<210> 120
<211> 29
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (29)
<223> OPTIONAL AMIDATION, Position 29 may be Gly-NH2
<400> 120
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
1
                  5
                                      10
```

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<210> 121
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is homoproline
<220>
<221> VARIANT
<222> (36)..(37)
<223> Xaa is homoproline
<220>
<221> MOD RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be homoproline-NH2
<400> 121
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                  25
             20
Ser Gly Ala Xaa Xaa
       . 35
<210> 122
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 122
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
```

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly

20

25

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<210> 123
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 123
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 124
<211> 28
<212> PRT
<213> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 124
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 125
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 125
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
1
                  5
                                      10
                                                          15
```

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20
<210> 126
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 126
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 127
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 128
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
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Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn

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<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 128
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 129
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 129
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 130
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 130
His Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 131
<211> 28
<212> PRT
<213> Artificial Sequence
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<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 131
Ala Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 132
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Ala Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 133
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 133
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                                          15
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
```

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<210> 134
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 134
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 135
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 135 '
Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
<210> 136
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
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<400> 136
Ala Gly Asp Gly Ala Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 137
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (6)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 138
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (6)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 138
Ala Gly Asp Gly Thr Xaa Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
```

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<210> 139
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 139
Ala Gly Asp Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 140
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 140
Ala Gly Asp Gly Thr Phe Ser Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 141
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
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<400> 141
Ala Gly Asp Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                 25
<210> 142
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 142
Ala Gly Asp Gly Thr Phe Thr Ala Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 143
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 143
Ala Gly Asp Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 144
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
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<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 144
Ala Gly Asp Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 145
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 145
Ala Gly Asp Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Met Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 146
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 146
Ala Gly Asp Gly Thr Phe Thr Ser Glu Leu Ser Lys Gln Leu Glu Glu
                  5
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
```

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<210> 147
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 148
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 148
Ala Gly Asp Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
                  5
                                      10
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 149
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (10)
<223> Xaa is pentylgylcine
<220>
<221> MOD_RES
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<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 149
Ala Gly Asp Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 150
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (10)
<223> Xaa is pentylgylcine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 150
Ala Gly Asp Gly Thr Phe Thr Ser Asp Xaa Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 151
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 151
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
```

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<210> 152
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 152
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ala Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                  25
<210> 153
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 153
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
<210> 154
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 154
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Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Ala Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 155
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 155
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
                                 25
             20
<210> 156
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Ala Leu Glu Glu
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                 25
<210> 157
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
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<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 157
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 158
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 158
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Ala Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
<210> 159
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (14)
<223> Xaa is pentylgylcine
<220>
<221> MOD_RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 159
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
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<210> 160
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (14)
<223> Xaa is pentylgylcine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 160
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Xaa Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 161
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 161
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Ala Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
                                  25
<210> 162
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
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<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Ala Glu
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 163
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 163
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Ala
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
             20
<210> 164
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 164
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Ala
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                 25
```

<210> 165

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<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 165
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                     10
Ala Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn
<210> 166
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 166
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Ala Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
                                 25
<210> 167
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                     10
```

```
<210> 168
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 168
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Ala Arg Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 169
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Ala Leu Phe Ile Glu Trp Leu Lys Asn
<210> 170
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
```

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Asn

```
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 170
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                     10
Glu Ala Val Ala Leu Phe Ile Glu Phe Leu Lys Asn
             20
<210> 171
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 171
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arq Ala Phe Ile Glu Trp Leu Lys Asn
<210> 172
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 172
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Ala Phe Ile Glu Phe Leu Lys Asn
             20
<210> 173
<211> 28
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (22)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 173
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Xaa Ile Glu Trp Leu Lys Asn
             20
                                  25
<210> 174
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (22)
<223> Xaa is napthylalanine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 174
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
Glu Ala Val Arg Leu Xaa Ile Glu Phe Leu Lys Asn
             20
<210> 175
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
```

```
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Val Glu Trp Leu Lys Asn
<210> 176
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 176
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
                                      10
Glu Ala Val Arg Leu Phe Val Glu Phe Leu Lys Asn
             20
<210> 177
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (23)
<223> Xaa is tertiary-butylglycine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 177
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Xaa Glu Trp Leu Lys Asn
                                 25
             20
```

```
<210> 178
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (23)
<223> Xaa is tertiary-butylglycine
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 178
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Xaa Glu Phe Leu Lys Asn
             20
<210> 179
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 179
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Asp Trp Leu Lys Asn
<210> 180
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
```

```
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 180
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Asp Phe Leu Lys Asn
<210> 181
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
<210> 182
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 182
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                     10
                                                     15
Glu Ala Val Arg Leu Phe Ile Glu Ala Leu Lys Asn
             20
                                 25
<210> 183
<211> 28
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Ala Lys Asn
<210> 184
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 184
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                                          15
Glu Ala Val Arg Leu Phe Ile Glu Phe Ala Lys Asn
             20
                                  25
<210> 185
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 185
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
```

```
<210> 186
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Asn-NH2
<400> 186
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Ala Asn
             20
<210> 187
<211> 28
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
<223> OPTIONAL AMIDATION, Position 28 may be Ala-NH2
<400> 187
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Ala
<210> 188
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (28)
```

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Ala Asn

25

```
<223> OPTIONAL AMIDATION, Position 28 may be Ala-NH2
<400> 188
Ala Gly Asp Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Ala
             20
<210> 189
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be Pro-NH2
<400> 189
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
                                      10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
Ser Gly Ala Pro Pro Pro
         35
<210> 190
<211> 38
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be Pro-NH2
<400> 190
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Pro Pro Pro
```

```
<210> 191
<211> 37
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be Pro-NH2
<400> 191
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                 25
Ser Gly Ala Pro Pro
         35
<210> 192
<211> 36
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD_RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be Pro-NH2
<400> 192
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Pro
         35
<210> 193
<211> 36
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
```

```
<220>
<221> MOD RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be Pro-NH2
<400> 193
Ala Gly Glu Gly Thr Phe Thr Ser Asp Ala Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
                                 25
             20
Ser Gly Ala Pro
         35
<210> 194
<211> 35
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (35)
<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2
<400> 194
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                     10
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala
         35
<210> 195
<211> 35
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (35)
<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2
<400> 195
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
```

```
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
Ser Gly Ala
         35
<210> 196
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (34)
<223> OPTIONAL AMIDATION, Position 34 may be Gly-NH2
<400> 196
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
                                                      30
Ser Gly
<210> 197
<211> 33
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (33)
<223> OPTIONAL AMIDATION, Position 33 may be Ser-NH2
<400> 197
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
Ser
<210> 198
```

<211> 32

```
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (32)
<223> OPTIONAL AMIDATION, Position 32 may be Ser-NH2
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
<210> 199
<211> 32
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (32)
<223> OPTIONAL AMIDATION, Position 32 may be Ser-NH2
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
<210> 200
<211> 31
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>.
<221> MOD RES
<222> (31)
<223> OPTIONAL AMIDATION, Position 31 may be Pro-NH2
<400> 200
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
```

```
20
                                  25
<210> 201
<211> 30
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (30)
<223> OPTIONAL AMIDATION, Position 30 may be Gly-NH2
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly
<210> 202
<211> 29
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (29)
<223> OPTIONAL AMIDATION, Position 29 may be Gly-NH2
<400> 202
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly
             20
<210> 203
<211> 38
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
```

Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro

```
<223> Xaa is thioproline
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa is thioproline
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be thioproline-NH2
<400> 203
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
             20
                                 25
Ser Gly Ala Xaa Xaa Xaa
         35
<210> 204
<211> 38
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (36)..(38)
<223> Xaa is thioproline
<220>
<221> MOD RES
<222> (38)
<223> OPTIONAL AMIDATION, Position 38 may be thioproline-NH2
<400> 204
His Gly Glu Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
Ser Gly Ala Xaa Xaa Xaa
         35
<210> 205
<211> 37
<212> PRT
```

```
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is N-methylalanine
<220>
<221> VARIANT
<222> (36)..(37)
<223> Xaa is N-methylalanine
<220>
<221> MOD_RES
<222> (37)
<223> OPTIONAL AMIDATION, Position 37 may be N-methylalanine-NH2
<400> 205
His Gly Glu Gly Thr Phe Thr Ser Ala Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                  25
             20
Ser Gly Ala Xaa Xaa
         35
<210> 206
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> VARIANT
<222> (31)
<223> Xaa is homoproline
<220>
<221> VARIANT
<222> (36)
<223> Xaa is homoproline
<220>
<221> MOD RES
<222> (36)
<223> OPTIONAL AMIDATION, Position 36 may be homoproline-NH2
<400> 206
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                                      10
                                                           15
1
```

```
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Xaa Ser
                                 25
Ser Gly Ala Xaa
         35
<210> 207
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (35)
<223> OPTIONAL AMIDATION, Position 35 may be Ala-NH2
<400> 207
His Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
                  5
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
                                  25
Ser Gly Ala
         35
<210> 208
<211> 30
<212> PRT
<213> Artificial Sequence
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (30)
<223> OPTIONAL AMIDATION, Position 30 may be Gly-NH2
<400> 208
His Gly Asp Ala Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly
             20
<210> 209
<211> 39
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 209
Ala Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
             20
                                  25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 210
<211> 39
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable residues
<220>
<221> MOD RES
<222> (39)
<223> OPTIONAL AMIDATION, Position 39 may be Ser-NH2
<400> 210
Ala Gly Ala Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Leu Glu Glu
Glu Ala Val Arg Leu Phe Ile Glu Phe Leu Lys Asn Gly Gly Pro Ser
             20
                                                      30
                                  25
Ser Gly Ala Pro Pro Pro Ser
         35
<210> 211
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> artificial sequence with specific variable
      residues
<220>
<221> MOD RES
<222> 1
<223> OPTIONAL AMIDATION, Gly at position 1 is optionally
```

```
amidated in the case that residues in positions
      2-10 are absent
<220>
<221> MOD RES
<222> 2
<223> OPTIONAL AMIDATION, Gly at position 2 may be optional and
      optionally amidated in the case that residues in
      positions 3-10 are absent
<220>
<221> VARIANT
<222> 3
<223> Xaa is selected from Pro, homoproline, 3Hyp, 4Hyp,
      thioproline, N-Alkylglycine, N-alkylpentylglycine,
      or N-alklalanine and is optionally amidated in the
      case that residues in positions 4...10 are absent
<220>
<221> MOD RES
<222> 4
<223> OPTIONAL AMIDATION, Ser at position 4 is optionally
      amidated in the case that residues in positions
      5-10 are absent
<220>
<221> MOD RES
<222> 5
<223> OPTIONAL AMIDATION, Ser at position 5 is optionally
      amidated in the case that residues in positions
      6-10 are absent
<220>
<221> MOD RES
<222> 6
<223> OPTIONAL AMIDATION, Gly at position 6 is optionally
      amidated in the case that residues in position
      7-10 are absent
<220>
<221> MOD RES
<222> 7
<223> OPTIONAL AMIDATION, Ala at position 7 is optionally
      amidated in the case that residues in positions
      8-10 are absent
<220>
<221> VARIANT
<222> 8
<223> Xaa is selected from Pro, homoproline, 3Hyp, 4Hyp,
      thioproline, N-alkylglycine, N-alkylpentylglycine,
      or N-alkylalanine and is optionally amidated in
```

<221> VARIANT <222> 9

<220>

the case that residues in positions 9-10 are absent

<223> Xaa is selected from Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine, or N-alkylalanine and is optionally amidated in the case that residues in position 10 are absent

<220>

<221> VARIANT

<222> 10

<223> Xaa is selected from Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine, or N-alkylalanine and is optionally amidated

<400> 211 Gly Gly Xaa Ser Ser Gly Ala Xaa Xaa Xaa 1 5 10